

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference BRE/357B	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/10805	International filing date (<i>day/month/year</i>) 29.09.2003	Priority date (<i>day/month/year</i>) 07.10.2002
International Patent Classification (IPC) or both national classification and IPC G01B5/012		
Applicant MARPOSS SOCIETA PER AZIONI et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 28.04.2004	Date of completion of this report 23.06.2004
Name and mailing address of the international preliminary examining authority:  <div style="display: inline-block; vertical-align: middle;"> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div>	Authorized Officer Beyfuß, M Telephone No. +49 89 2399-2725



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/10805**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-13 as originally filed

Claims, Numbers

1-11 received on 28.05.2004 with letter of 27.05.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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EXAMINATION REPORT**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP03/10805

Reference is made to the following documents:

- D1: US-A-4 577 416
- D2: WO 00 17602 A
- D3: US-A-5 299 360
- D3: US-A-4 789 762
- D4: GB-A-2 145 523
- D5: US-A-5 319 858
- D6: US-A-4 789 762

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Technical Field: Touch probes for coordinate measurement
2. Prior Art

The documents of the international search report disclose switching touch probes (D1-D5) and switches filled with inert gas (D6). From D4 and D5 it is known to provide a protection material such as oil for the contacts. D1 which is seen as closest prior art discloses a touch probe including a casing, a movable armset and an arm mounted on said armset and carrying a feeler at its end. When the armset is moved at least one switch is activated by using a bar which contacts the outer portion of the armset. In one embodiment D1 uses a switch with precious metal contacts in an inert gas atmosphere to guarantee exactly reproducible switching during a long lifetime. This implies that the housing of the switch is filled with said inert gas which serves as a contact protective fluid.

3. Novelty (Article 33(2) PCT)

The subject matter of independent claim 1 differs from the touch probe of D1 in that the casing encloses a sealingly closed chamber, in that the housing of the electric switch lies at the interior of said sealingly closed chamber, and in that the inert gas is present in the sealingly closed chamber. The subject matter of independent claim 1 is thus new.

4. Inventive Step (Article 33(3) PCT)

This particular design seems to provide an improved sealing and thus a better accuracy which is of special importance for precise coordinate measuring. There was no indication found in the available prior art to modify the design disclosed in D1 in the way defined in claim 1. The subject matter of independent claim 1 is thus also based on an inventive activity.

5. Dependent Claims

The dependent claims 2-11 only add particular features to the subject matter of independent claim 1. The subject matter of claims 2-11 is thus also new and based on an inventive step.

6. Industrial Applicability (Article 33(4) PCT)

The subject matter of the claims 1-11 is industrially applicable, eg. for measuring dimensions of workpieces in the manufacturing line.

REMARKS:

1. Lines 21-36 of page 13 describe arrangements outside the scope of the claims, contrary to Article 6 PCT. "Probes with just some of the advantageous characteristics" or "Probes...having important structural differences with respect to the embodiments of figure 1" include designs which are not covered by the claims. Moreover, since claim 1 is now restricted to "inert gas" those passages of the description (eg. p. 9, l. 29) mentioning only "a contact protecting fluid" are not in line with the present claims (Article 6 and Rule 5.1(a)(iii) PCT).
2. D1 is presently not cited in the description, contrary to Rule 5.1(a)(ii) PCT.
3. Since the inert gas is clearly disclosed in D1 (col. 2, l. 24) the two-part form (Rule 6.3(b) PCT) of claim 1 is not correct.